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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/609,332
Filing Date: June 26, 2003
Appellant(s): STEINHORST ET AL.

Bradley P. Williams
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 24 June 2008 appealing from the Office action mailed 02 January 2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

The grounds of rejection also include claims 1, 2, 4-10, 12-15, 32, and 33, rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. (US 2004/0179518 A1) in view of Gaskill (US 5,629,940 A).

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 2004/0179518 A1	BRUCKMAN et al.	09-2004
US 5,629,940 A	GASKILL	05-1997
US 6,625,165 A	KRISHNAMOORTHY et al.	09-2003
US 6,694,100 B1	FATEHI et al.	02-2004
US 6,130,764 A	TANIGUCHI	10-2000

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 4-10, 12-15, 32, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. (US 2004/0179518 A1) in view of Gaskill (US 5,629,940 A).

Regarding **claim 1**, Bruckman et al. disclose a method for providing communications service during an upgrade of an optical communications ring formed from a plurality of nodes (Figures 1 and 4), each node operable to transmit and receive a first frame having a number of first time slots equal to N, wherein N is an integer and the first time slots are occupied by data, the method comprising:

upgrading a first node (such as the node connected to ADM 24A as shown in Figures 1 and 4) in the optical communications ring by increasing a data transmission rate of the first node to an increased rate, the first node coupled to a second node (such as the node connected to the other ADM 24B), the second node operable to transmit data at the data transmission rate;

at the increased rate, transmitting data in a second frame from the first node to the second node, the second frame having a number of second time slots equal to M, wherein M is an

integer greater than N and the data occupies a number of the second time slots of the second frame equal to N (page 5, paragraph [0075]);

receiving the second frame at the second node; and

detecting, at the second node, the data in the second time slots of the second frame (page 5, paragraph [0075]).

Examiner notes that Bruckman et al. disclose that while the other nodes are not yet similarly upgraded to a higher rate (i.e., OC-192) and are still operating at the original rate (i.e., OC-48), the upgraded node transmits data at a limited capacity to match the original rate: the new OC-192 cards "are configured at this stage for 4xSTS-48c channelized operation. After the replacement is completed...traffic resumes on segment 76. Only one of the four available STS-48c channels is used at this stage" (Bruckman et al., page 5, paragraph [0075]). In other words, the upgraded node now has a higher rate comprising M time slots, but until the other nodes are also upgraded, the data transmitted by the upgraded node occupies only the number of time slots corresponding to the old rate (i.e., N time slots).

Further regarding claim 1, Bruckman et al. do not specifically disclose providing at least one identifier to the second node, the at least one identifier identifying the occupied second time slots of the second frame.

However, Gaskill teaches a system that is related to the one disclosed by Bruckman et al. including communicating data in frames having time slots and further teaches providing at least one identifier to a receiving node, the at least one identifier identifying the occupied time slots of the frame (column 2, lines 13-29). Regarding claim 1, it would have been obvious to a person of ordinary skill in the art to provide at least one identifier as taught by Gaskill in the system

disclosed by Bruckman et al. in order to enable the receiving node to acquire the data more quickly (Gaskill, column 2, lines 8-15).

Regarding **claims 8, 9, and 14** as similarly discussed above with regard to claim 1, Bruckman et al. disclose a method (Figures 1 and 4) for providing communications service in a communications ring formed from a plurality of existing nodes each operable to transmit, at an existing rate, a first frame having a number of occupied time slots equal to N occupied by data, wherein N is an integer, the method comprising:

increasing the existing rate of a node (such as the node connected to ADM 24A as shown in Figures 1 and 4) to a higher rate, the node operable to transmit a second frame at the higher rate, the second frame having a higher number of time slots than the first frame;

occupying a number of the time slots of the second frame equal to N using data to be received by at least one of the existing nodes;

transmitting the second frame of data to the at least one of the existing nodes;

receiving the second frame at the existing node; and

detecting, at the existing node, the data in the time slots of the second frame (page 5, paragraph [0075]).

Again, Examiner notes that Bruckman et al. disclose that while the other nodes are not yet similarly upgraded to a higher rate (i.e., OC-192) and are still operating at the original rate (i.e., OC-48), the upgraded node transmits data at a limited capacity to match the original rate: the new OC-192 cards “are configured at this stage for 4xSTS-48c chanellized operation. After the replacement is completed...traffic resumes on segment 76. Only one of the four available STS-48c channels is used at this stage” (Bruckman et al., page 5, paragraph [0075]). In other

words, the upgraded node now has a higher rate comprising M time slots, but until the other nodes are also upgraded, the data transmitted by the upgraded node occupies only the number of time slots corresponding to the old rate (i.e., N time slots).

Further regarding claims 8, 9, and 14, Bruckman et al. do not specifically disclose providing at least one identifier to the at least one of the existing nodes, the identifier identifying the occupied time slots of the second frame.

However, Gaskill teaches a system that is related to the one disclosed by Bruckman et al. including communicating data in frames having time slots and further teaches providing at least one identifier to a receiving node, the at least one identifier identifying the occupied time slots of the frame (column 2, lines 13-29). Regarding claims 8, 9, and 14 it would have been obvious to a person of ordinary skill in the art to provide at least one identifier as taught by Gaskill in the system disclosed by Bruckman et al. in order to enable the receiving node to acquire the data more quickly (Gaskill, column 2, lines 8-15).

Regarding **claim 6** and also further regarding **claim 14**, Bruckman et al. disclose generating a third frame at the second node, the third frame having a number of occupied time slots equal to N occupied by the detected data and no unoccupied time slots; and transmitting the third frame to one of the nodes (in other words, Bruckman et al. disclose the second node generates and transmits a third frame having N time slots, all of which are occupied with data, since the second node is operating at the original transmission rate; page 5, paragraphs [0073]-[0075]).

Regarding **claim 2**, Bruckman et al. disclose after the transmission of the second frame, upgrading all of the nodes by increasing the data transmission rate of each node to the rate that is higher than the data transmission rate;

occupying, using data, all of a number of third time slots of a third frame, wherein the number of third time slots equals M; and

transmitting the third frame (pages 5-6, paragraphs [0076]-[0077]; Bruckman et al. disclose, for example, that M equals 192 and eventually all of the nodes transmit frames at that rate).

Similarly, regarding **claim 10**, Bruckman et al. disclose that the second frame has a number of the time slots equal to M, wherein M is an integer, and further comprising:

after the transmission of the second frame, upgrading all of the existing nodes by increasing the existing rate to the higher rate; and

transmitting another frame having a number of the time slots equal to M from an upgraded one of the existing nodes (pages 5-6, paragraphs [0076]-[0077]; Bruckman et al. disclose, for example, that M equals 192 and eventually all of the nodes transmit frames at that rate).

Further regarding both claims 2 and 10, again Bruckman et al. do not specifically disclose at least one identifier identifying the occupied time slots of the second frame and therefore do not specifically disclose directing the second node to ignore the at least one identifier. However, as discussed above with regard to claims 1 and 8, the system described by Bruckman et al. in view of Gaskill includes at least one identifier identifying the occupied time slots of the second frame (column 2, lines 13-29). Gaskill further teaches directing the receiving node to ignore the at least

one identifier after the particular time slots corresponding to the identifier have been already received (column 4, lines 32-42). Regarding claims 2 and 10, it would have been obvious to a person of ordinary skill in the art to direct the second/existing node to ignore the at least one identifier as taught by Gaskill in the system disclosed by Bruckman et al. in order to enable the node to read another frame with data in all the time slots (i.e., a frame that does not have data in only particular time slots) after the upgrade is completed.

Regarding **claims 4 and 5**, Bruckman et al. disclose that M equals 192 ands N equals 48, and that the data transmission rate is approximately 2.5 gigabits per second and the increased rate is approximately 10 gigabits per second (page 5, paragraph [0075]). Similarly, regarding **claims 12 and 13**, Bruckman et al. disclose that the higher number of the time slots is equal to exactly 192 time slots and N equals 48, and that the existing rate is approximately 2.5 gigabits per second and the higher9 rate is approximately 10 gigabits per second (page 5, paragraph [0075]).

Regarding **claim 7**, Bruckman et al. disclose setting a first data receipt rate of the upgraded first node to equal the data transmission rate of a non-upgraded node; setting a second data receipt rate of the second node to equal the increased rate of the first node; receiving, at the upgraded first node, the first frame at the first data receipt rate; and wherein receiving the second frame at the second node comprises receiving the second frame at the second data receipt rate (pages 5-6, paragraphs [0073]-[0078]). Specifically, Bruckman et al. disclose that the upgraded first node now has a higher transmission rate comprising M time slots, but until the other (second) node is also upgraded, the upgraded first node only receives data at the original data transmission rate of a non-upgraded node (since the other node can only transmit data to the first node at the original rate).

Regarding **claim 15**, Bruckman et al. disclose that the data is divided into a plurality of categories (i.e., “categories” each corresponding to one of a plurality of STS-48c channels), and the higher number of time slots (i.e., the 192 time slots) are divided into a plurality of sections each corresponding to a particular one of the categories, and wherein each category of data occupies only a corresponding section of the time slots (page 5, paragraph [0075]).

Regarding **claim 32**, Bruckman et al. disclose transmitting data in the first frame from the second node to the first node at the data transmission rate (page 5, paragraph [0076]).

Regarding **claim 33**, Bruckman et al. disclose transmitting data in the first frame from a first existing node to a second existing node at the existing rate (page 5, paragraph [0076]).

Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. in view of Gaskill as applied to claims 1 and 8 above, and further in view of Krishnamoorthy et al. (US 6,625,165 A).

Regarding **claims 3 and 11**, Bruckman et al. in view of Gaskill describe a method as discussed above with regard to claims 1 and 8, including data comprising payload data, but they do not specifically disclose redundancy data.

However, Krishnamoorthy et al. teach a system that is related to the one described by Bruckman et al. in view of Gaskill, including transmitting data in frames having time slots (Figure 3). Krishnamoorthy et al. further teach transmitting data comprising payload data and redundancy data, and wherein the payload data 317 occupies a first group of the time slots designated for payload data and the redundancy data 319 occupies a second group of the time slots designated for redundancy data (column 4, lines 23-34).

Regarding claims 3 and 11, it would have been obvious to a person of ordinary skill in the art to include redundancy data as taught by Krishnamoorthy et al. in the system described by Bruckman et al. in view of Gaskill in order to advantageously correct any errors in the payload data.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. in view of Fatehi et al. (US 6,694,100 B1).

Regarding **claim 16**, Bruckman et al. disclose a node for forming an optical communications ring that includes a plurality of existing nodes each operable to transmit, at an existing rate, a first frame having a number of occupied time slots equal to N occupied by data, wherein N is an integer (Figures 1 and 4), the node comprising:

a bit transmission unit operable to transmit a second frame to an existing node of the optical communications ring at a rate that is higher than the existing rate, the second frame having a higher number of time slots than the first frame (i.e., 192 time slots instead of 48; page 5, paragraph [0075]).

Bruckman et al. further generally disclose that the node is operable to generate a pattern of data that fills a number of the time slots of the second frame equal to N and to send the pattern of data to the bit transmission unit (page 5, paragraph [0075]), but they do not specifically disclose a switch unit for performing this function.

However, Fatehi et al. teach a system that is related to the one disclosed by Bruckman et al. including transmitting frames having time slots occupied by data in an optical communications ring (Figures 1 and 2). They further teach a switch unit 211 and 212 operate to fill a number of time slots with data (column 4, lines 33-57). Regarding claim 16, it would have

been obvious to a person of ordinary skill in the art to include a switch unit as taught by Fatehi et al. in the system disclosed by Bruckman et al. in order to effectively select particular time slots for containing data in the transmitted frame. Again, Bruckman et al. already generally discloses transmitting data in selected time slots.

Claims 31 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. in view of Fatehi et al. and Gaskill.

Regarding **claim 31**, as similarly discussed above with regard to claim 16, Bruckman et al. disclose a node for forming an optical communications ring that includes a plurality of existing nodes each operable to transmit, at an existing rate, a first frame having a number of occupied time slots equal to N occupied by data, wherein N is an integer (Figures 1 and 4), the node comprising:

a bit transmission unit operable to transmit a second frame to an existing node of the optical communications ring at a rate that is higher than the existing rate, the second frame having a higher number of time slots than the first frame (i.e., 192 time slots instead of 48; page 5, paragraph [0075]).

Further regarding claim 31, Bruckman et al. further generally disclose that the node is operable to generate a pattern of data that fills a number of the time slots of the second frame equal to N and to send the pattern of data to the bit transmission unit (page 5, paragraph [0075]), but they do not specifically disclose a switch unit for performing this function.

However, Fatehi et al. teach a system that is related to the one disclosed by Bruckman et al. including transmitting frames having time slots occupied by data in an optical communications ring (Figures 1 and 2). They further teach a switch unit 211 and 212 operate to

fill a number of time slots with data (column 4, lines 33-57). Regarding claim 31, it would have been obvious to a person of ordinary skill in the art to include a switch unit as taught by Fatehi et al. in the system disclosed by Bruckman et al. in order to effectively select particular time slots for containing data in the transmitted frame. Again, Bruckman et al. already generally disclose transmitting data in selected time slots.

Further regarding claim 31, Bruckman et al. do not specifically disclose that the existing node comprises at least one identifier identifying the occupied time slots of the second frame.

However, Gaskill teaches a system that is related to the one disclosed by Bruckman et al. including communicating data in frames having time slots and further teaches providing at least one identifier to a receiving node, the at least one identifier identifying the occupied time slots of the frame (column 2, lines 13-29). Regarding claim 31, it would have been obvious to a person of ordinary skill in the art to provide at least one identifier as taught by Gaskill in the system described by Bruckman et al. in view of Fatehi et al. in order to enable the receiving node to acquire the data more quickly (Gaskill, column 2, lines 8-15).

Regarding **claims 18 and 19**, Bruckman et al. disclose that the higher number of the time slots is equal to exactly 192 time slots and N equals 48, and that the existing rate is approximately 2.5 gigabits per second and the higher rate is approximately 10 gigabits per second (page 5, paragraph [0075]).

Regarding **claim 20**, Bruckman et al. disclose that the data is divided into a plurality of categories (i.e., “categories” each corresponding to one of a plurality of STS-48c channels), and the time slots are divided into a plurality of sections each corresponding to a particular one of the categories (page 5, paragraph [0075]). Again, although Bruckman et al. do not specifically

disclose a switch unit, it would have been obvious to a person of ordinary skill in the art to include a switch unit controlled by a signaling unit as taught by Fatehi et al. in the system disclosed by Bruckman et al. in order to effectively select particular time slots for containing data in the transmitted frame.

Regarding **claim 21**, Bruckman et al. disclose that data frame transmission is coordinated with the existing nodes using a protocol that aligns with the existing rate (page 5, paragraph [0075]), and Fatehi et al. further teach a signaling unit (i.e., controller 205) which provides control to the switch unit 211-212. Again, it would have been obvious to a person of ordinary skill in the art to include a switch unit controlled by a signaling unit as taught by Fatehi et al. in the system disclosed by Bruckman et al. in order to effectively select particular time slots for containing data in the transmitted frame. Again, Bruckman et al. already generally discloses transmitting data in selected time slots and that data frame transmission is coordinated with the existing nodes using a protocol that aligns with the existing rate.

Regarding **claim 22**, Bruckman et al. do not specifically disclose a laser for transmitting frames, but they do disclose transmitting optical signals (i.e., "patterns of light pulses" as recited in the claim). It is well understood in the optical communications art that lasers may be used for optically transmitting data in networks such as disclosed by Bruckman et al. Fatehi et al. in particular also generally teach using lasers to transmit data as a pattern of light pulses (column 3, lines 51-54). It would have been obvious to a person of ordinary skill in the art to specifically include a laser as taught by Fatehi et al. in the system described by Bruckman et al. in view of Fatehi et al. and Gaskill in order to effectively provide the already-disclosed light pulses using a widely available and commonly known light source device.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. in view of Fatehi et al. and Gaskill as applied to claim 31 above, and further in view of Krishnamoorthy et al.

Regarding **claim 17**, Bruckman et al. in view of Fatehi et al. and Gaskill describe a system as discussed above with regard to claim 31, including data comprising payload data and a switch unit operable to selectively fill time slots with data, but they do not specifically disclose redundancy data.

However, Krishmoorthy et al. teach a system that is related to the one described by Bruckman et al. in view of Fatehi et al. and Gaskill, including transmitting data in frames having time slots (Figure 3). Krishmoorthy et al. further teach transmitting data comprising payload data and redundancy data, and wherein the payload data 317 occupies a first group of the time slots designated for payload data and the redundancy data 319 occupies a second group of the time slots designated for redundancy data (column 4, lines 23-34).

Regarding claim 17, it would have been obvious to a person of ordinary skill in the art to include redundancy data as taught by Krishnamoorthy et al. in the system described by Bruckman et al. in view of Fatehi et al. and Gaskill in order to advantageously correct any errors in the payload data.

Claims 23, 24, and 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. in view of Fatehi et al., Gaskill, and Taniguchi (US 6,130,764 A).

Regarding **claims 23 and 24**, Bruckman et al. disclose a system for forming an optical communications ring (Figures 1 and 4), comprising:

a first node operable to transmit and receive a first frame at an existing rate, the first frame having a number of occupied time slots equal to N occupied by data, wherein N is an integer;

a second node coupled to the first node through optical fiber to form a ring, the second node comprising:

a bit transmission unit operable to transmit a second frame to the first node at a rate that is higher than the existing rate, the second frame having a higher number of time slots than the first frame (i.e., 192 time slots instead of 48; page 5, paragraph [0075]).

Further regarding claim 23 in particular, Bruckman et al. further generally disclose that the second node is operable to generate a pattern of data that fills a number of the time slots of the second frame equal to N and to send the pattern of data to the bit transmission unit (page 5, paragraph [0075]), but they do not specifically disclose a switch unit for performing this function.

However, Fatehi et al. teach a system that is related to the one disclosed by Bruckman et al. including transmitting frames having time slots occupied by data in an optical communications ring (Figures 1 and 2). They further teach a switch unit 211 and 212 operate to fill a number of time slots with data (column 4, lines 33-57). Regarding claim 23, it would have been obvious to a person of ordinary skill in the art to include a switch unit as taught by Fatehi et al. in the system disclosed by Bruckman et al. in order to effectively select particular time slots for containing data in the transmitted frame. Again, Bruckman et al. already generally disclose transmitting data in selected time slots.

Further regarding claim 23 and also regarding claim 24, Bruckman et al. do not specifically disclose that the first node comprises at least one identifier identifying the occupied time slots of the second frame and that the first node is operable to receive the second frame and detect the data in the identified time slots of the second frame according to the at least one identifier.

However, Gaskill teaches a system that is related to the one disclosed by Bruckman et al. including communicating data in frames having time slots and further teaches providing at least one identifier to a receiving node, the at least one identifier identifying the occupied time slots of the frame (column 2, lines 13-29). Regarding claims 23 and 24, it would have been obvious to a person of ordinary skill in the art to provide at least one identifier as taught by Gaskill in the system described by Bruckman et al. in view of Fatehi et al. in order to enable the receiving node to acquire the data more quickly (Gaskill, column 2, lines 8-15).

Further regarding claim 23 in particular, Bruckman et al. disclose a ring but do not specifically disclose a bi-directional line switched ring. However, Taniguchi teach a system that is related to the one disclosed by Bruckman et al. including an optical communication ring network and further teach a bi-direction line switched ring topology (Figures 38a-b; column 2, lines 37-67). Regarding claim 23, it would have been obvious to a person of ordinary skill in the art to provide a bi-directional line switched ring as taught by Taniguchi in the system described by Bruckman et al. in view of Fatehi et al. and Gaskill in order to effectively provide alternative communication paths in the event of network faults.

Regarding **claims 26 and 27**, Bruckman et al. disclose that the higher number of the time slots is equal to exactly 192 time slots and N equals 48, and that the existing rate is

approximately 2.5 gigabits per second and the higher rate is approximately 10 gigabits per second (page 5, paragraph [0075]).

Regarding **claim 28**, Bruckman et al. disclose that the data is divided into a plurality of categories (i.e., "categories" each corresponding to one of a plurality of STS-48c channels), and the time slots are divided into a plurality of sections each corresponding to a particular one of the categories (page 5, paragraph [0075]). Again, although Bruckman et al. do not specifically disclose a switch unit, it would have been obvious to a person of ordinary skill in the art to include a switch unit controlled by a signaling unit as taught by Fatehi et al. in the system disclosed by Bruckman et al. in order to effectively select particular time slots for containing data in the transmitted frame.

Regarding **claim 29**, Bruckman et al. disclose that data frame transmission is coordinated with the existing nodes using a protocol that aligns with the existing rate (page 5, paragraph [0075]), and Fatehi et al. further teach a signaling unit (i.e., controller 205) which provides control to the switch unit 211-212. Again, it would have been obvious to a person of ordinary skill in the art to include a switch unit controlled by a signaling unit as taught by Fatehi et al. in the system disclosed by Bruckman et al. in order to effectively select particular time slots for containing data in the transmitted frame. Again, Bruckman et al. already generally discloses transmitting data in selected time slots and that data frame transmission is coordinated with the existing nodes using a protocol that aligns with the existing rate.

Regarding **claim 30**, Bruckman et al. do not specifically disclose a laser for transmitting frames, but they do disclose transmitting optical signals (i.e., "patterns of light pulses" as recited in the claim). It is well understood in the optical communications art that lasers may be used for

optically transmitting data in networks such as disclosed by Bruckman et al. Fatehi et al. in particular also generally teach using lasers to transmit data as a pattern of light pulses (column 3, lines 51-54). It would have been obvious to a person of ordinary skill in the art to specifically include a laser as taught by Fatehi et al. in the system described by Bruckman et al. in view of Fatehi et al., Gaskill, and Taniguchi in order to effectively provide the already-disclosed light pulses using a widely available and commonly known light source device.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bruckman et al. in view of Fatehi et al., Gaskill, and Taniguchi as applied to claim 23 above, and further in view of Krishnamoorthy et al.

Regarding **claim 25**, Bruckman et al. in view of Fatehi et al., Gaskill, and Taniguchi describe a system as discussed above with regard to claim 23, including data comprising payload data and a switch unit operable to selectively fill time slots with data, but they do not specifically disclose redundancy data.

However, Krishmoorthy et al. teach a system that is related to the one described by Bruckman et al. in view of Fatehi et al., Gaskill, and Taniguchi including transmitting data in frames having time slots (Figure 3). Krishmoorthy et al. further teach transmitting data comprising payload data and redundancy data, and wherein the payload data 317 occupies a first group of the time slots designated for payload data and the redundancy data 319 occupies a second group of the time slots designated for redundancy data (column 4, lines 23-34).

Regarding claim 25, it would have been obvious to a person of ordinary skill in the art to include redundancy data as taught by Krishnamoorthy et al. in the system described by

Bruckman et al. in view of Fatehi et al., Gaskill, and Taniguchi in order to advantageously correct any errors in the payload data.

(10) Response to Argument

Regarding claims 1-33, Examiner respectfully disagrees with Appellant's assertion on pages 10-12 of the Brief that "the references do not teach or suggest 'upgrading a first node in the optical communications ring by increasing a data transmission rate of the first node to an increased rate, the first node coupled to a second node' and 'the second node operable to transmit data at the data transmission rate'....Instead, Bruckman teaches a simultaneous rate increase throughout the network." Examiner respectfully disagrees with Appellant's assertions and respectfully submits that Bruckman et al. disclose a system that is similar to the one recited in Appellant's claims.

Appellant in the Brief cites portions of Bruckman et al's disclosure (e.g., Bruckman et al., paragraph [0071]) which discuss a "simultaneous rate increase," but Examiner respectfully notes that Bruckman et al. simply disclose that the complete rate increase of the system occurs *afte*r each node has been physically upgraded. Bruckman et al. do not specifically disclose a simultaneous *upgrade* of each node. Figures 2 and 3, for example, shows that upgrading the nodes (step 40) precedes configuring all of the now-upgraded nodes to operate together at the new increased rate (steps 62-64). The teachings of Bruckman et al. relied upon in the rejections of the claims are mainly concerned with how the system operation is maintained while the nodes are in the process of being physically upgraded one by one, *before* the full rate increase is enabled across all nodes. Examiner respectfully submits that this situation is also the one to which Appellant's claims are directed.

Like Appellant's invention, the system disclosed by Bruckman et al. has a node with an physically upgraded rate temporarily transmitting data only in selected time slots (see also

Appellant's specification, page 7, lines 27-31, which similarly describes an upgraded node operable to configure a frame "so that data occupies only 48 time slots out of 192 available time slots"). In both Bruckman et al.'s system and Appelant's system, when all of the nodes have been upgraded, then all of the increased number of time slots may be occupied with data, thus producing a "simultaneous rate increase" across all nodes in both systems.

Examiner respectfully maintains that like Appellant's invention, the system disclosed by Bruckman et al. first upgrades one node of the network of nodes to a higher transmission rate, such as OC-192, from a lower original rate, such as OC-48. Bruckman et al., in page 5, paragraph [0075], specifically disclose physically replacing OC-48 cards of one node to OC-192 cards and therefore clearly disclose upgrading one node to the higher rate first, not necessarily "simultaneously" upgrading all nodes. The upgraded node now has a higher rate comprising M time slots, but until the other nodes are also upgraded, Bruckman et al. disclose that the data transmitted by the upgraded node occupies only the number of time slots corresponding to the old rate (i.e., N time slots). In other words, and in response to Appellant's argument on page 11 of the Brief, Bruckman et al. disclose occupying N time slots of the M time slots available. Bruckman et al., paragraph [0075], disclose that after upgrading one node with OC-192 cards, the cards "are configured at this stage for 4xSTS-48c channelized operation....Only one of the four available STS-48c channels is used at this stage" (i.e., the stage prior to all of other nodes being likewise upgraded). Bruckman et al., paragraph [0009], also disclose "After completing the hardware upgrade on each segment, the protection switches are deactivated, and the segment is brought back on line at the *current* network rate (in the channelized 4xSTS-N operational mode). This process continues until all the segments have been upgraded. In the second stage, the rates

of all the segments are increased to the *new* rate....This two-stage approach permits the network rate to be changed while normal network operation continues....” (emphasis added).

Therefore, Examiner respectfully maintains that Bruckman et al. disclose substantial limitations of Appellant’s claims as discussed above in the rejections.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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